



United States
Department of
Agriculture

Forest
Service

January 2018



Hydrology Report- Draft

Crescent Creek Comprehensive River Management Plan

Crescent Ranger District, Deschutes National Forest
Klamath County, CA



For Information Contact: Kyle Wright
136471 Hwy 97 North/ PO Box 208 Crescent, OR 97733
541-383-3200

Non-Discrimination Policy

The U.S. Department of Agriculture (USDA) prohibits discrimination against its customers, employees, and applicants for employment on the bases of race, color, national origin, age, disability, sex, gender identity, religion, reprisal, and where applicable, political beliefs, marital status, familial or parental status, sexual orientation, or all or part of an individual's income is derived from any public assistance program, or protected genetic information in employment or in any program or activity conducted or funded by the Department. (Not all prohibited bases will apply to all programs and/or employment activities.)

To File an Employment Complaint

If you wish to file an employment complaint, you must contact your agency's EEO Counselor (PDF) within 45 days of the date of the alleged discriminatory act, event, or in the case of a personnel action. Additional information can be found online at www.ascr.usda.gov/complaint_filing_file.html.

To File a Program Complaint

If you wish to file a Civil Rights program complaint of discrimination, complete the [USDA Program Discrimination Complaint Form](#) (PDF), found online at www.ascr.usda.gov/complaint_filing_cust.html, or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at program.intake@usda.gov.

Persons with Disabilities

Individuals who are deaf, hard of hearing or have speech disabilities and you wish to file either an EEO or program complaint please contact USDA through the Federal Relay Service at (800) 877-8339 or (800) 845-6136 (in Spanish).

Persons with disabilities who wish to file a program complaint, please see information above on how to contact us by mail directly or by email. If you require alternative means of communication for program information (e.g., Braille, large print, audiotape, etc.) please contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

Table of Contents

<i>Non-Discrimination Policy</i>	1
<i>To File an Employment Complaint</i>	1
<i>To File a Program Complaint</i>	1
<i>Persons with Disabilities</i>	1
Hydrology Report- Draft	1
Introduction	1
Purpose and Need	1
Proposed Actions and Alternatives Analyzed	1
Methodology and Spatial Bounding	2
Affected Environment	2
Environmental Consequences	2
Alternative 1 (No Action)	2
Alternative 2 (Proposed Action)	3
Cumulative Effects	4
Compliance with law, regulation, policy, and the Forest Plan	4
Deschutes National Forest Land and Resource Management Plan (1990)	4
Northwest Forest Plan (1994)	4
The Clean Water Act (1972) and Sections 319 and 303(d)	5
Literature Cited	6

Hydrology Report- Draft

Introduction

The purpose of this document is to analyze for any potential effects from adopting the Comprehensive River Management Plan. Discussions will include regulations related to hydrological resources, the affected environment, and environmental consequences.

Purpose and Need

The purpose of the proposal is to: 1) adopt a comprehensive river management plan to protect and enhance the values for which the river was designated (free-flowing, water quality, and outstandingly remarkable values), and 2) identify and implement Forest Service management actions needed to protect these values within the proposed boundary. Section 3 of the Wild and Scenic Rivers Act (16 USC 1274, as amended) specifies that a comprehensive management plan will be developed for the designated river corridor.

Planning is needed to integrate management of multiple resources, resource designations, and activities in the planning area. Management of uses on public lands is necessary in this congressional designated area to address private, public, and administrative access needs; protect resources, promote public safety; and minimize conflicts among uses of public lands.

Based upon the review of the public input, evaluation of corridor conditions and need for action, the comprehensive river management plan will focus on the following:

- As required by law, develop a comprehensive river management plan that addresses resource protection, land use, user capacities, and other management practices.
- Protect outstandingly remarkable values (identified as scenic views and geology)
- Ensure free flowing conditions and water quality is maintained

The purpose of the environmental assessment (EA) is to provide a basis for comparing management alternatives and adopting a management plan for the designated Crescent Creek Wild and Scenic corridor.

Proposed Actions and Alternatives Analyzed

For more details on alternatives, see Chapter 2 of the EA.

No Action Alternative

The no action alternative would continue current “management” of the Wild and Scenic corridor as is. It would encompass Standard and Guidelines from the Deschutes National Forests Land Resource Management Plan (LRMP), Management Area 17, but without any of the other components of a Comprehensive River Management Plan.

Proposed Action

The proposed action is to adopt a comprehensive river management plan for the designated recreation segment of Crescent Creek. The Deschutes National Forest is the administering unit and is proposing the comprehensive river management plan.

Methodology and Spatial Bounding

Methods of analysis for this project was largely based on examining the compliance of the proposed CRMP with existing laws and regulations. Since there is no proposed ground disturbing activity as part of this project, in-channel monitoring was not done.

Spatial boundary for this analysis is the Crescent Creek 5th field (HUC 10, 1707030202) watershed. It is approximately 119,543 acres.

Affected Environment

Crescent Creek is the outflow from Crescent Lake. It is a slow moving stream with an average gradient drop of less than 45 feet per mile. It is regulated by the Tumalo Irrigation District for irrigation purposes. Temperatures are influenced by the regulated flows and average 42 degrees F for the summer months. Low flows are common during the months of October through April when the lake is recharged for summer irrigation withdrawal. High flows are usually moderate (averaging 146 CFS) during the months of June through September. Flows for irrigation purposes may exceed 230-CFS during specific times during June through September. The soils in the area are generally porous and absorb rainfall therefore the creek experiences very little fluctuation in the flow levels from rainfall.

The activity at and around the boat ramp located directly above the dam may influence the water quality of Crescent Creek. The location of docking and fueling facilities directly above the dam may increase the risk of the accidental release of minor impurities into the creek.

Operations at the Crescent wye also have the potential to add materials and waste for the operations of the railroad.

The confluence of Big Marsh Creek with Crescent Creek occurs just upstream of the crossing with Highway 58. The naturally occurring flow regimes of Big Marsh Creek moderate the effects of the controlled flows from Crescent Creek and the creek experiences fewer fluctuations. The tannic acid from the organic matter decomposition occurring in Big Marsh colors the water a tea color downstream though the clarity of the water is maintained. This section of stream is dramatically different from the upper section mostly due to the steep canyon that ends near the crossing with the Crescent Cutoff Road.

Environmental Consequences

Direct and Indirect Effects

Alternative 1 (No Action)

Using the existing Federal and State guidelines, such as those in Northwest Forest Plan, Aquatic Conservation Strategy, State water quality standards, and the Deschutes LRMP, would be adequate to protect the hydrology resource within the Crescent Creek Wild and Scenic boundaries. However, unfocused management and minimal monitoring are not moving conditions toward the desired condition. Additionally, by not adopting a Comprehensive River

Management Plan, the Forest Service would not be in compliance with the Wild and Scenic River Act.

Alternative 2 (Proposed Action)

Existing guidelines in Federal and State policies such as the Northwest Forest Plan, Aquatic Conservation Strategy, State water quality standards and the Deschutes LRMP, would be adequate to protect the hydrology resources. However, to improve clarity, management, and enforcement several new standards and guidelines for the Crescent Creek Wild and Scenic River Creek are proposed in Alternative 2.

Standards and Guidelines Include:

G-1: The location of claims under current mining laws will be continued (no locatable mineral are known to be present within the corridor); mineral leasing and the disposal of saleable minerals will only be allowed if such activities would protect and enhance Outstanding Remarkable Values or free-flow/ water quality benefits.

SV-1: Partial retention will be used as the visual management standard within Crescent Wild and Scenic River boundary.

H-1: Wood manipulation to allow boating is not allowed.

H-2: Trails will be designed to avoid sensitive riparian areas and to the extent possible provide access to the creek at designated locations.

H-3: Dispersed camping sites will be regulated to the quantity and location to protect river resources, particularly riparian vegetation and water quality.

H-4: Habitat improvement projects will be allowed, should be natural appearing and be compatible with other values of the riverine setting.

Under Alternative 2, recreation would be better monitored and regulated where necessary. Thresholds would be developed for recreation so it is easier to determine if unacceptable resource damage is occurring and what remedial action(s) (including closure and rehabilitation) would need to occur. This alternative would rehabilitate current issues that are contributing sediment and better manage/monitor future sites so as to limit sediment concerns.

There would be no negative effects but potentially a positive effect to water quality through adoption of the CRMP. Added standards and guidelines under Alternative 2 could help reduce user impacts in riparian areas, thereby providing better riparian vegetation for stream shade. Identification of road issues and remediation of these issues would help decrease sedimentation into the waterway.

Cumulative Effects

The hydrology cumulative effects analysis area includes all watersheds (10th field) that drain directly into the Crescent Creek (1707030202). Effects to hydrology resource from the action alternative in the EA would incrementally add to cumulative effects because of the beneficial effects predicted by the added guidelines. No negative effects from the action alternative are predicted; therefore, the CRMP would not incrementally add to any negative cumulative effects.

Compliance with law, regulation, policy, and the Forest Plan

All federal land management activities in the Crescent Creek Wild and Scenic River Plan Project area must follow standards and guidelines listed in the 1990 Deschutes National Forest Land and Resource Management Plan (LRMP) (US Forest Service 1990), as amended by the Northwest Forest Plan (NWFP) (US Forest Service and BLM 1994), in accordance with Best Management Practices (US Forest Service 1998), and the Clean Water Act. All National Forest lands in the Wild and Scenic River Plan project area fall under the guidance of the NWFP.

Deschutes National Forest Land and Resource Management Plan (1990)

The 1990 Deschutes National Forest Land and Resource Management Plan (Forest Plan), as amended by the Northwest Forest Plan, provides additional management guidance in the project area.

Applicable standards and guidelines for riparian areas within the LRMP are outlined on pages 4-61 through 4-67. Those applicable to this project are RP-1 through RP-26, RP-28, RP-29, RP-33 through RP-37, RP-43 through RP-47. Fisheries and water standards and guidelines are outlined on pages 4-61 through 4-68 and 4-69 through 4-70, respectively.

Northwest Forest Plan (1994)

There are no Tier 1, Key watersheds within the planning area.

Applicable standards and guidelines for Riparian Reserves within the Northwest Forest Plan include the following;

- As a general rule, standards and guidelines prohibit or regulate activities in Riparian Reserves that retard or prevent attainment of the Aquatic Conservation Strategy objectives. See pages C31-C38 of the Northwest Forest Plan for more specific information. ACS objective discussion can be found in the fisheries specialist report.

Under the Northwest Forest Plan and East Side Screens, Riparian Reserve/Riparian Habitat Conservation Area Widths are as follows;

- *Fish-bearing streams* – Riparian Reserves consist of the stream and the area on each side of the stream extending from the edges of the active stream channel to the top of the inner gorge, or to the outer edges of the 100 year floodplain, or to the outer edges of the riparian vegetation, or to a distance equal to the height of two site-potential trees, or 300

feet slope distance (600 feet total, including both sides of the stream channel), whichever is greatest.

- *Seasonably flowing or intermittent streams, wetlands less than 1 acre, and unstable and potentially unstable areas* - This category applies to features with high variability in size and site-specific characteristics. At a minimum the Riparian Reserves must include:
 - The extent of unstable and potentially unstable areas (including earthflows),
 - The stream channel and extent to the top of the inner gorge
 - The stream channel or wetland and the area from the edges of the stream channel or wetland to the outer edges of the riparian vegetation, and
 - Extension from the edges of the stream channel to a distance equal to the height of one site-potential tree, or 100 feet slope distance, whichever is greatest.

Riparian Reserve buffers can be modified only through the mechanism of watershed analysis.

The Clean Water Act (1972) and Sections 319 and 303(d)

The primary objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of all waters to protect the 'beneficial uses' as documented according to criteria by the Oregon Department of Environmental Quality (ODEQ). A beneficial use is a resource or activity that would be directly affected by a change in water quality or quantity. Beneficial uses are defined on a basin scale in the Oregon Administrative Rules for water quality and cover large areas of land. The beneficial uses for this project are derived from the entire Deschutes Basin (approximately 6.9 million acres).

Under Section 319 of the 1987 CWA Amendments, states are required to determine those waters that will not meet the goals of the CWA, determine those non-point source activities that are contributing pollution, and develop a process on how to reduce such pollution to the "maximum extent practicable." Section 303(d) of the CWA requires that a list be developed of all impaired or threatened waters within each state. The ODEQ is responsible for compiling the 303(d) list, assessing data, and submitting the 303(d) list to the Environmental Protection Agency (EPA) for federal approval. The 303(d) list identifies waters where water quality standards are not met and where pollutant load limits (Total Maximum Daily Loads) are needed.

At this time, there is a draft 2012 303(d) list, but final approval has not yet occurred. The current 303(d) List is the 2010 List. Within the Crescent Creek WSR planning area the following waterbodies are on the 2010 303(d) list:

- Crescent Cr – listed year round for exceeding stream temperature criteria (18 °C) for salmon and trout rearing and migration (RM 0-11) and (12°C) for bull trout spawning and juvenile rearing (RM 11-30.1).

Downstream of the Crescent WSR Planning Area:

- Little Deschutes River – listed for exceeding stream temperature criteria (12°C) for bull trout spawning and juvenile rearing and also for salmon and trout rearing and migration (18°C). Also listed for dissolved oxygen.

Literature Cited

USDA. Forest Service. 1990. Deschutes National Forest land and resource management plan. Deschutes National Forest. Bend, OR.

U.S. Forest Service and Bureau of Land Management (USFS and BLM). 1994. Record of decision for amendments to Forest Service and Bureau of Land Management planning documents within the range of the northern spotted owl.

USDA. Forest Service and USDI Bureau of Land Management. 2001. Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines Within the Range of the Northern Spotted Owl. Portland, Oregon

DRAFT